REMARKS

This application has been carefully reviewed in light of the Office Action dated April 21, 2005. Claims 1, 3 to 51, 88 to 90, 93 and 94 are pending in the application, of which Claims 1, 51 and 93 are independent. Reconsideration and further examination are respectfully requested.

Before turning to the substantive merits of the Office Action, a few formal matters are addressed. First, and perhaps most significantly, in its reproduction of the claim language, the Amendment dated November 22, 2004 incorrectly inserted a few words into independent Claim 1. This insertion of words was unintentional, and it is noted that the parenthetical designation for Claim 1 specified that it was an "original" claim. The inserted words are found at line 5, and incorrectly specify that the source color data file contains "source color image data and" source device color characteristic data. The quoted language did not appear in original Claim 1, and its inclusion in the reproduction of Claim 1 was an unintentional error. However, it is thought that this error was harmless, since the instant Office Action very clearly treated Claim 1 based on its original language, and not on the erroneous reproduction found in the Amendment dated November 22, 2004.

Second, concerning Information Disclosure Statements, the Office Action indicated that it could not a record of an Information Disclosure Statement dated October 9, 2003. This Information Disclosure Statement (which was a "fifth" Information Disclosure Statement) was actually filed on October 10, 2003. A copy of the Information Disclosure Statement in question, together with a postcard receipt confirming filing on October 10, 2003, accompany this Amendment. Consideration of the art cited therein is respectfully requested.

Third, formal drawings were filed with this application on May 9, 2000. Acknowledgment that the formal drawings have been approved is respectfully requested.

Turning to the substantive merits of the Office Action, Claims 1 to 35, 41 to 50 and 91 to 94 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 5,754,184 (Ring), and the remaining claims were rejected over § 103(a) over Ring in view of U.S. Patent No. 6,037,950 (Meir) or U.S. Patent No. 6,249,315 (Holm). The rejections are all respectfully traversed, since the art of record is not seen to disclose or to suggest storage of color characteristic data as defined in the claims and as detailed more fully below.

The invention concerns transformation of color image data from a source device into color image data for rendering by a destination device. According to one aspect of the invention, a color transform is constructed based on color characteristic data contained in a color data file. One benefit of constructing a color transform based on color characteristic data, particularly color characteristic data stored in a color data file, is that a color transform can be constructed based on actual color characteristic data, thereby enabling color transformation techniques to adapt flexibly to actual color characteristic data and to rendering intents and objectives.

As set forth in independent Claim 1, as amended, source color image data is obtained in a source color space corresponding to the source device, and a source color data file is obtained also corresponding to the source device. The source color file contains source device color characteristic data, wherein the source device color characteristic data contains colorimetric data and corresponding device signal data. A source color transform is constructed based on the source device color characteristic data contained in the source color data file. The source color

transform is applied to the source color image data to transform the source color image data from the source device color space into interim color image data in an interim color space.

It is therefore clear, according to the language of Claim 1, that both the source color image data and the source color data file correspond to the same source device, and that source device color characteristic data differs from the transformed data itself. Moreover, the source device color characteristic data that is stored in the data file contains colorimetric data and corresponding device signal data.

In maintaining the rejection over Ring, the Office Action gave a broad interpretation to the phrase "source device color characteristic data". As understood from the comments on pages 2 and 3 of the Office Action, it appears that the Office Action has equated the claimed "source device color characteristic data" with the various device profiles (such as a scanner profile, a monitor profile, or a printer profile) obtained by Ring. Ring's profiles, however, are very different from the color characteristic data of Claim 1, which "contains colorimetric data and corresponding device signal data". In contrast, Ring's profiles do not contain any colorimetric data and corresponding device signal data, but rather contain only mathematical equations or mathematical models for the devices. It is true that Ring makes measurements, including colorimetric measurements, in order to derive its mathematical models. For example, lines 1 through 15 of Ring's column 9 describe a process in which color patches are measured colorimetrically. However, the purpose in making the colorimetric measurements is to derive a mathematical relationship; it is only the mathematical relationship that is stored in Ring's various profiles, and the colorimetric measurements themselves do not appear to be stored in anything corresponding to the claimed source color data file which contains source device color characteristic data comprising colorimetric data and corresponding device signal data.

It is therefore respectfully submitted that Claim 1 would not have been obvious from any fair reading of Ring, or from any permissible combination of Ring with Meir or Holm. Allowance of Claim 1 is respectfully requested.

Independent Claim 51 concerns a method for managing color data to transform source color image data from a source device into destination color image data for rendering by a destination device. The source color image data is obtained in a source color space corresponding to the source device. A source color data file corresponding to the source device is obtained, wherein the source color data file contains source device color characteristic data. According to one feature of the invention, the source device color characteristic data is formatted according to a standard predetermined format and has a plurality of tags containing the source device color characteristic data and a set of viewing condition data corresponding to a set of viewing conditions in which the source device color characteristic data was measured. A source color transform is constructed based on the source device color characteristic data and the set of viewing condition data by utilizing an interim color space and a color appearance model, wherein the source color transform is for transformation of the source color image data from the source device color space into an interim color space. The source color transform is incorporated into a color transformation sequence, which is thereafter applied to the source color image data so as to transform the source color image data from the source device color space into a destination device color space.

Ring is not seen to disclose or to suggest the foregoing arrangement. In particular, Ring is not seen to disclose or to suggest at least the features that the source color image data and the source color data file correspond to the same source device, with the source device characteristic data being different from the transformed data itself.

Moreover, Ring is not seen to disclose or to suggest at least the feature that the source device color characteristic data is formatted according to a standard predetermined format and has a plurality of tags containing the source device color characteristic data and a set of viewing condition data corresponding to a set of viewing conditions in which the source device color characteristic data was measured. In particular, and as explained above, Ring is seen to disclose storage of mathematical models, but is not seen to disclose or to suggest storage of source device color characteristic data as set out in Claim 51 herein.

Applicants therefore respectfully request withdrawal of the rejection of Claim 51, and an indication of allowance.

Independent Claim 93 has been amended so as to emphasize a further use of the colorimetric data contained in source and destination color data files. According to the amended language of Claim 93, the colorimetric data may be used so as to generate gamut boundary descriptors for both the source device and for the destination device. Based on the gamut boundary descriptors, a gamut transform can be constructed.

Generation of gamut boundary descriptors is possible because of storage of colorimetric data, rather than storage of mere mathematical models. As indicated above, storage of colorimetric data provides for flexible adaptation in usage and generation of color transforms, and generation of gamut boundary descriptors, followed by construction of a gamut transform, is one representative example of this flexibility.

Ring is not seen to disclose or to suggest any of the foregoing features, particularly as regards storage of colorimetric data in both a source and a destination color data file, and usage of the colorimetric data to generate source and destination gamut boundary descriptors from which a gamut transform is constructed.

Allowance of Claim 93 is respectfully requested.

No other matters being raised in the Office Action, it is respectfully submitted that the entire application is fully in condition for allowance, and such action is courteously solicited.

Applicants' undersigned attorney may be reached in our Costa Mesa, CA office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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